Bowditch (V. Y.)

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When requested to address you upon the "Home Treatment of Phthisis," I asked permission to change the subject, feeling that I could, perhaps, give you something of greater interest if I attempted to show you the results obtained by the sanitarium treatment of phthisis near our own city, as illustrated by five years' experience at the Sharon Sanitarium for Pulmonary Diseases in Sharon, Mass. In presenting the results of the work there, it is with the hope that the idea of establishing sanitaria for treating tuberculosis may grow steadily in favor, so that instead of small isolated institutions here and there in the United States, we may have in the immediate vicinity of our large cities in every State suitable establishments where people of limited means, who are showing the first signs of consumption, can be sent with the hope of arresting the disease in its early stages, even in insalubrious climates. In Europe, much more rapid advance has been made than in America in the past few years in these matters. Of late, the French government, convinced of the usefulness of such establishments, has taken steps to found sanitaria for consumptives in various parts of the country. Brehmer, the father of the idea of sanitarium treatment for consumption, has left behind him his now great and celebrated sanitarium at Görbersdorf as a proof of the correctness of his views advanced nearly forty years ago. His

pupil, Dettweiler, later established the sanitarium at Falkenstein, near Frankfort, and his name is now as well known throughout the medical world as that of his great predecessor.

Numerous similar institutions in later years have been founded in various parts of Germany, and their results are showing already how much can be done even in the harsh cold winters of North Germany.

In England, Scotland and Ireland also, they are following the example of the Germans. Even in the damp, chilly climate of eastern Scotland favorable results are being reported at the Craigleith Sanitarium for the consumptive poor near Edinburgh.

The Adirondac Cottage Sanitarium at Saranac Lake, N. Y., and the Winyah at Asheville, N. C., are now well known in America, the former only, however, being intended for people of very moderate means. Others exist in Colorado, Southern California and in the South, but, so far as I know, the Sharon Sanitarium is the only one in New England which is intended exclusively for people of very limited means.

The people of New York city, however, have within the past year founded an institution at Liberty, N. Y., intended for cases of incipient phthisis in connection with consumptive hospitals in the city.

The Rush Hospital for Consumptives in Philadelphia, Pa., and another similar institution near Baltimore, Md., should be mentioned, but I do not understand them to be devoted especially to cases of consumption in its early stages.

As I review the records of the Sanitarium and recall the cases of those in whom arrest of the morbid process has been accomplished, it is gratifying to find that my former belief in the efficacy of such treatment for a good percentage of cases even in our own harsh climate was not unfounded.

In presenting to you these records of five years' experience, I should not be so foolish, of course, as to claim results equal to those coming from a radical change of climate such as is possible for the wealthier classes, but I merely wish to show, if I can, that what has been accomplished at Sharon is vastly more satisfactory than any attempt, in my experience at least, to treat patients in their homes or at the office in this part of the country.

The reason for this would seem to be obvious. A bright, cheerful home is provided at very slight cost to the patients, where in addition to good food and the excellent air of a healthy country town, medical supervision is kept up at a period of the disease when it is of vital importance that the patient should not be allowed to follow his own inclinations as to exercise, food or general mode of life.*

Contrast this with the usual method of treating the poor or even the wealthier class of patients at one's office. It is impossible under such conditions to control as one should the actions of even the most intelligent, and, in such a climate as ours, the results are discouraging to the last degree.

Even at the Sanitarium we inevitably meet with certain cases, of course, which in spite of every effort steadily and surely lose ground; but there are others which after a stay of many months, possibly, at Sharon, have remained in apparent perfect health, and it is these cases which have proved to me how much can be done with comparatively simple means, and how much more can be accomplished with increased facilities for the treatment of consumption when patients are kept under the close supervision of a sanitarium not far from home. You will notice that I have in no case used the word "cure," but have confined myself to the term "arrest of disease," simply because I do not

* The price of board at the Sanitarium is $5.00 a week, which includes medical attendance, medicines, and everything else but washing. Only women are received at present.

feel that the former term is justifiable until after a number of years in which the patient shows no signs of relapse. If the general appearance, however, of the patient can be taken as an indication of his condition, the term "cure" might certainly have been used in many of the cases which I have reported as "arrested." In some, moreover, who have been away from Sharon for two or three years and report themselves as in perfect health, we should be justified in saying that they stand as good a chance of living long lives as anyone, but I have thought it best to adhere to the less absolute term.

In a paper entitled "Three Years Experience with the Sanitarium Treatment of Phthisis near Boston," I gave to the American Climatological Association at Washington in 1894 the results of forty cases of consumption treated at Sharon. Ten of these were reported as "arrested," and later in this paper I shall hope to give their succeeding histories. The full accounts can be found in the Transactions of the Climatological Association for 1894, or in the Boston Medical and Surgical Journal of July 12 and 19, 1894.

In the past two years, up to March 1, 1896, twenty-six cases have been admitted to the Sanitarium. Two of these remained less than five weeks and are, therefore, not included. Of twenty-four cases treated in the past two years, seven who have left the Sanitarium were called "arrested cases," the details of which will be published with this paper. Of the remaining seventeen, one (No. 64) was a suspicious case without very definite signs except anæmia, a slight cough without expectoration, and a questionable dry crepitation near the spine of the left scapula. She left at the end of four months perfectly well, and has remained so since, "never better in her life" at last accounts. This case, however, was not classed with the "arrested" ones, because of the doubtful nature of the trouble.

Twelve others (Nos. 55, 57, 60, 61, 62, 66, 67, 69, 71, 73, 74, 75) were all cases of more or less advanced phthisis in one or both lungs, several of whom were admitted merely as an endeavor to better their condition, with little or no hope of cure. Eight of these showed a greater or less degree of improvement in their general condition; four of them were not benefited. Four others were really incipient cases (Nos. 58, 68, 72, 76), two of whom having opportunities to live in Colorado left Sharon after a stay of three and one-half and six months respectively, with decided improvement in general symptoms, but with no change or a slight increase of local symptoms; one other left after two months, decidedly improved, and one is still at the Sanitarium, the picture of health, with little or no cough, the bacilli having disappeared from the sputa since the early winter.

In addition to the ten "arrested cases" recorded in my paper before the Climatological Association, five who were then under treatment and classed as "much improved" have since been discharged as "arrested cases," the last one having left Sharon a year ago. Of these, four are very well (Nos. 31, 33, 36 and 48), no symptom of return of the disease having yet appeared; one (No. 42), after a stay of nearly two years at the Sanitarium (with the exception of short intervals, during which she had to undergo serious operations at the hospital for uterine disease of unknown nature), left Sharon with the signs of the original lesion in the left lung quite healed, and finally died at the City Hospital following a severe operation for a uterine tumor. Just previous to her death I was able to carefully examine her lungs, and the only trace of her original trouble was a faint dry click occasionally heard in the left supra-clavicular space upon respiration. This result was corroborated by a member of the staff. Most unfortunately, no autopsy was allowed upon this most interesting case, and the nature of

the abdominal tumor was never known. The details of these cases will also be published with this paper.

It is, of course, impossible in any paper to convey the impression made upon the observer by individual cases, and any attempt to recite in detail the results of each case would only weary, without convincing the listener probably. In giving percentages, moreover, there must inevitably arise small sources of error, but in publishing results I have tried to avoid the "personal equation" in the description of cases, and can only emphasize what I have earlier stated, that the number of patients whom I have seen improve or in whom the symptoms of disease have disappeared at the Sanitarium is much greater than I have ever seen by ordinary methods of so-called "home-treatment" in Boston.

I am aware that possibly the diagnosis in some of the published cases may be challenged, because of the failure to discover bacilli in the sputa, when the physical signs were very slight. I can only say in reply to this, what we all surely know, that the absence of bacilli is no proof of the absence of tubercular disease; that in many cases which show undoubted evidences of phthisis, upon physical examination we may fail for months to find bacilli in the sputa, and for myself there are certain evidences of incipient trouble, *e.g.* a change in the character of the percussion note or the respiratory murmur in the apex of a lung in conjunction with general signs of departure from health, like fever, malaise, loss of flesh, etc., that mean infinitely more to me than the mere evidence of the microscope alone, whether positive or negative.

With these remarks as a preface, then, let me state that out of sixty-four cases of phthisis treated in the Sanitarium in the last five years, twenty-two have been classed as "arrested cases," a little more than $33\frac{1}{3}\%$. Of these, four (Nos. 3, 37, 41 and 42) have since died, and in two others (Nos. 1 and 63) the symptoms of disease again appeared

not many months after leaving Sharon, but they are still living. Of those who died, however, one showed no evidence of return of pulmonary trouble, but died after a uterine operation; two others resumed, against advice, the same mode of life as before, and pulmonary disease again developed. Another died from some rectal disease, the nature of which could not be known as the patient was lost sight of. Good accounts are obtained of all of the others, as far as pulmonary symptoms are concerned, the majority having left the Sanitarium more than two years ago.

Granting that phthisis in a number of cases is a self-limited disease, and that such cases get well under any conditions (Austin Flint having claimed that about 11% are probably self-limited), and granting that evidences of tubercular processes are found in the lungs of numbers of people who have died of non-tubercular disease, yet I feel I am justified in maintaining that the results in this comparatively limited number of cases rest on something much more than mere self-limitation of disease, and that they are such as to warrant the establishment of similar institutions near every large city or town.

The work at the Sanitarium has been greatly aided by the almost daily presence of a medical assistant, and of a most efficient matron, a former trained nurse, to whose unremitting care those of the patients who have regained their health largely owe their lives. That still better results can be accomplished by the presence of a resident physician I have no doubt, and it is my earnest desire that at no far distant date, with increased funds, this, with other necessary improvements, will be accomplished.

METHODS OF TREATMENT AT THE SANITARIUM.

After many trials of various remedies, I am still convinced that fresh air, sunlight, good food, with judicious exercise, whether in the form of pulmonary gymnastics or otherwise,

are the chief factors in whatever good results have thus far been obtained. The so-called "peppermint cure" has been faithfully tried with negative results as far as any curative action is concerned, although it seemed in certain cases to ameliorate some of the symptoms, especially the cough. It should be said that it was impossible to use the mixture recommended by Curasso, to be taken by the mouth, as the amount of alcohol caused marked symptoms of intoxication, and a modified form was given, the chief ingredients being creosote and oil of peppermint, but the other details of his treatment were closely followed.

Klebs's "Antiphthisine" has been used also in several cases, and I regret to say that the results in my hands have not convinced me of its curative power. It has been given carefully in accordance with the recommendations as far as possible, and in one or two cases improvement was noticed, but not more than I have noticed by different methods. Creosote alone has been tried, but without positive proof of its special value in my experience, except as a corrective to the digestion at times. I have never succeeded in giving the large doses recommended by some on account of the intolerance of the stomach for such amounts.

Tuberculin has never been used at Sharon, my experience at the Carney Hospital in South Boston, previous to the opening of the Sanitarium, having convinced me that it was wiser to wait until we have heard more upon the subject from Koch before making further experiments. The methods pursued have been chiefly these: — regular hours of sleep; rest in the open air, even in the coldest winter weather, on the piazza in the sunshine; exercise by walking, regulated according to the condition of the patient; pulmonary gymnastics in the form of ordinary calisthenics, to develop the chest muscles, or by means of the pneumatic cabinet, regular treatment with which has a markedly beneficial effect upon the expansion of the chest. When

used judiciously I have never seen harmful results from this treatment, and the patients almost universally speak of the sense of freedom in breathing after its use. At times the combination of a medicated vapor with the cabinet has a soothing effect, especially if a general bronchitis is present, but I have no faith in the germicidal effect of any vapor used in this way as sometimes recommended. Pulmonary gymnastics, then, in some form, hold in my opinion a very important place in all methods of cure of consumption, and chief among them stands the pneumatic cabinet or some equally efficacious substitute.

Tonics, in the form of the preparations of the hypophosphites, bitters, malt and iron, are frequently used, and special attention is paid to the condition of the stomach and bowels. Three regular meals in the day, with lunches, usually of egg and milk in the middle of the morning and afternoon, are prescribed, and are varied according to the patients' needs. If patients are found to be feverish, quiet is recommended rather than exercise, but, if in their rooms, the windows are always open in degrees varying with the temperature, that the advantages of fresh air treatment may not be lost.

The strictest attention is paid to the care of the sputa, expectoration being allowed only into certain receptacles which are provided for this purpose and are destroyed by fire later. When on the grounds of the Sanitarium the patients are provided with small rubber pouches containing sheets of Japanese paper, which are destroyed after use. Table napkins are of the same material, and the china utensils, spoons and forks are boiled after use at every meal. Dusting and sweeping in the Sanitarium are never allowed, but the floors and walls are wiped frequently with damp cloths, which are afterwards burned or boiled, by all of which means chances of infection are reduced to a minimum.

Special endeavors are made to procure employment which will enable the patients after they leave Sharon to be more in the open air than in their previous occupations, and it has been gratifying to find how many continue to practise the hygienic methods and gymnastic exercises which have been taught them in the Sanitarium.

It may be well for me to refer to what I have alluded to in previous papers, viz:—the idea that the presence of others who are ill in the same institution has a deleterious mental effect upon the patients. As a matter of fact, this objection, which doubtless exists in the minds of many, amounts, not only in my experience but in that of every physician who has had control of a properly regulated sanitarium, to practically nothing when compared with the advantage to be gained. It has surprised me frequently to see how soon patients become wonted to their changed method of life after the first inevitable sense of strangeness and homesickness wears off, and how quickly they become cheerful and often happy in their surroundings. Depression comes usually from some outside source or from a cause other than the mere presence of other invalids.

As to the danger of infection in institutions where proper precautions are used, I believe it to be very slight, and the lately published paper of Dr. Irwin W. Hance, entitled "Study of the Infectiousness of Dust in the Adirondac Cottage Sanitarium," shows in a most interesting way how little we have to fear on that ground in such establishments where absolute cleanliness of the patient and his surroundings is insisted upon.

In conclusion let me say, that I should regret it very much if in my scepticism as to the curative power of any of the so-called specific treatments for phthisis thus far invented I were to give a false impression as to my own hope and belief. I cannot help feeling that we are on the eve of a new epoch in the history of tuberculosis. Steadily and

surely, although slowly, I believe we are approaching the time when phthisis may be regarded as we now regard the plague and small-pox, diseases which once were the terror of the human race, but which are now either unknown in civilized communities, or so far under control that they are no longer so much dreaded.

Preventive medicine, with its teachings of proper hygienic surroundings for those who show a tendency to weakened constitutions, either acquired or inherited, has played a most important part in the already noticeable decrease in the mortality from consumption, and to bacteriology we owe the great advance which has been made in our ability of late years to recognize the signs of incipient disease and to grapple successfully with them.

Let us, therefore, hopefully, cautiously and patiently work in the lines that experience teaches us will give the best results. If I shall have been able to convince you that the sanitarium treatment of consumption, even in harsh climates, takes a very high rank among the methods of combating this disease, and if in so doing I can induce you to promulgate the idea, not only among the medical profession but in the community generally, the object of this paper will have been accomplished.

DISCUSSION.

Dr. F. I. Knight, of Boston:—The subject which I was asked to discuss was a little different from this: it was the home treatment of tuberculosis. I am not sorry that the subject was changed, because I think it very important that the sanitarium treatment of tuberculosis should be enforced upon the profession. I fully endorse all that Dr. Bowditch has said. As long as the treatment of tuberculosis is a treatment of the condition of the patient and not a treatment of the disease specifically, the closer supervision and regulation of the patient the physician has, the

better it is going to be for the patient. After years and centuries of experience with searching for specifics, in our time we have fallen back pretty much upon the rational treatment, as we have called it, of the condition of the patient. Very few specifics are known, and although, as Dr. Bowditch has said, we have hopes, very few have been discovered, and I agree with him that as yet we have not found a specific for tuberculosis upon which we can rely, disregarding the general treatment of the patient, which is, in the present state of our knowledge, in my opinion far more important. It is possible that even now specifics so-called may exist which help out in the cure, but the main thing yet is the treatment of the general condition of the patient. Now, that holds good in Colorado just as much as it does here. The Colorado climate may be looked at in the light of a specific in a certain sense, but the patient there with good general treatment is much better off than the patient without it. It is one of the temptations to young people in Colorado to disregard medical supervision and fall into social pleasures, which I am sorry to say even some of the physicians offer to their patients. I once sent a bright young man there, whose father came to me on one of his vacations and said: "I don't want my son to go back to Dr. So-and-so's family, because he gives a dinner party every night and they sit up very late talking and smoking."

The effect upon the patient of knowing his condition and of being with others in that condition is not depressing, as Dr. Bowditch says. It is curious perhaps that it is not, but patients in sanitaria and health resorts where there are other patients of the same kind are very apt to be cheerful in talking over their symptoms. Every one seems to think he is a little better than his neighbor, and they realize the seriousness of the condition and the prolonged fight necessary to overcome it. That is impressed in a sanitarium better than anywhere else, that it is a long, hard fight, and the patients realize it and are willing to submit to regulations. The difference between the health-resort treatment and the sanitarium treatment is beautifully illustrated to my mind by the two mottoes, one of which was to be seen a few years ago, and perhaps now, in the recreation hall in the largest hotel in Davos, one of the fashionable sanitary resorts, where people generally live in the hotels and do as they

please to a great extent. The motto there is "Hilares mox sani" (Be merry, and you will soon be well). In the hall at Görbersdorf the motto is "Die Patienten kommen nicht um sich zu amüsiren, sondern um geheilt zu werden" (Patients do not come here to be amused, but to be cured). See a patient from each of those places and you will appreciate the difference. Patients from sanitaria appreciate the seriousness of the thing, realize that a day's pleasure may destroy the improvement of a year. Yesterday a young girl came into my office, twenty years old, in whom the disease had been arrested so that she had no noticeable cough for nine or ten months and felt perfectly well. Without consulting me she went back to employment in a factory, and in two months there was a fresh invasion of tubercular disease, and I fear now that she is beyond recovery. If that young woman had ever been in a sanitarium and got the morale of it, she never would have thought of going to work without finding out whether she ought to have done so. In conclusion, as far as the results go in New England, I feel sure that anybody who can be treated in a sanitarium is going to be better off than if treated at home. Of course if they can be treated in Colorado in a sanitarium, or under strict medical supervision, it is better than being treated it a sanitarium here, but I have no doubt that many of the patients who go West and roam about without medical supervision and guidance would be better off in a sanitarium at home.

RECORDS OF SEVEN CASES OF "ARRESTED DISEASES" SINCE THE PREVIOUS REPORT IN 1894.

Case I.—(No. 51). American. Married. Age 31. Entered January 31, 1894. Mother died of phthisis. Pneumonia four years before, and "congestion of lungs" eighteen months previous to entrance. Slight cough and occasional hæmoptysis since. Loss of flesh, malaise, slight fever.

Physical Examination.—Dulness in upper portion of right lung, with crumpling râles varying in intensity over most of the lung. A little later, a few râles in top of left lung. *Bacilli in sputa.* Cough persisted, although lessening, for six months, after which it practically ceased. Tem-

perature became normal. Gain of twenty-five pounds in weight. Left the Sanitarium one year and a half after entrance.

Synopsis.—Catarrhal phthisis of both lungs. Arrest of disease after a stay of one and a half years at the Sanitarium. Patient at this time, eleven months after departure, to all appearances well: the last examination showing dry râles in the apices and in lower part of right chest, but the percussion in both of good character. No cough.

Case II.—(No. 53). Entered May 14, 1894. American. Married. Age 33. Very phthisical family history. Has for several years had a pain in lower right chest, and a cough. For eight months previous to entrance cough was severe, with a good deal of sputa, occasionally bloody. Loss of flesh and strength.

Physical Examination.—Thin and pale. Right clavicle prominent. Tenderness upon percussion. Respiration jerky there. Percussion slightly dull, also in middle third of right back. No special râles detected. Pulse 108. Temperature 100. *Bacilli could not be found.* Condition slowly improved. Cough and expectoration ceased. Gain of twenty-two pounds in weight. Left the Sanitarium thirteen months after entrance, feeling well and stronger than for many years before.

Synopsis.—Incipient phthisis of right lung. Arrest of disease after thirteen months stay at the Sanitarium.

Case III.—(No. 56). Entered June 27, 1894. Nova Scotian. Single. Age 24. Domestic. Two maternal aunts died of phthisis. Never very strong. Following an attack of tonsillitis a year before entrance, a slight cough with profuse expectoration, occasionally bloody, developed. Occasional night sweats. Pain in left side for two months. Catarrh troublesome.

Physical Examination.—Slight dulness in right apex, a "squeak" heard there once, with broncho-vesicular respiration and a questionable "crumple." Nothing over seat of pain. Temperature 99.3. Pulse 100. Barring a slight hemorrhage soon after entrance, there was steady improvement in all symptoms. Cough and expectoration ceased and catarrhal symptoms greatly improved. *No bacilli found.* Patient left the Sanitarium against advice after a

two months' stay, feeling very well: the percussion in the right apex being normal and no evidence of râle there.

Synopsis.—Incipient phthisis at right apex. Disappearance of signs after two months' stay at Sharon.

Case IV.—(No. 59). Entered July 30, 1894. Sent by Dr. J. J. Minot. American. Single. Age 19. Mother and one sister died of phthisis; later, a brother developed phthisis. Two years previously had taken care of a sick sister, and later, in winter preceding entrance, took cold and began to cough, which became less in the spring. Loss of flesh. Occasional pain in the right subscapular region.

Physical Examination.—Dull in upper right back with faint "squeak," and after cough an explosion of râles. Slight tubular respiration. Respiration decidedly bronchovesicular in both apices. Voice increased in both apices. Pulse 100. Temperature 99.3. *Bacilli in sputa.* There was marked improvement from the outset. At the end of six months there was a cessation of cough and the bacilli had disappeared from the sputa when any could be obtained. The temperature became normal, and for the past year the patient has been the picture of health, and remained at the Sanitarium merely as a matter of precaution previous to living in the West. Gain of nineteen pounds in weight. At the last examination the percussion in the apices had greatly improved, and although the respiration was bronchovesicular in both tops, and after cough a few râles could be heard, yet the whole sound was of a dry character. The general signs had been those of an arrested process for a year previous to departure.

Synopsis.—Incipient phthisis in both apices. Arrest of disease at the end of six months, the patient remaining in the Sanitarium twenty-one months.

Case V.—(No. 63). Entered November 7, 1894. American. Married. Age 23. One aunt died of phthisis. Two and a half months previous to entrance developed a cough, with profuse expectoration. Some loss of flesh, chilliness, malaise.

Physical Examination.—Lack of tone in apices and faulty expansion of the chest. Slightly higher-pitched note in left apex behind. Suspicion of a dry râle about spine of

left scapula. Slight elevation of temperature. *Sputa negative.* The cough and expectoration rapidly diminished and finally ceased. The expansion of chest and percussion greatly improved by the use of pulmonary gymnastics. Patient left against advice, feeling very well, at the end of three months, as a doubtful case of incipient phthisis. Gain of nine pounds.

Synopsis.—Probable incipient phthisis at the top of left lung. Arrest of morbid signs at the end of three months' stay.

Subsequent History.—Patient returned to hard work in unhygienic surroundings. Had whooping cough later, and in June, 1895, was re-admitted, with evident signs of phthisis at the top of the left lung. *Bacilli in the sputa.* Owing to disobedience of rules and refusal of treatment the patient was discharged at the end of three months, with only slight improvement of general symptoms.

This case is shown as illustrating how the absence of bacilli in the early history was no proof of the non-existence of tubercular disease, and yet the physical signs pointed towards the existence of phthisis, which was proved several months later when the patient reëntered the Sanitarium.

Case VI.—(No. 65). Entered January 8th, 1895. American. Single. Age 24. Lives at home. Sent by Dr. George G. Sears. Family history negative, with exception of asthma in father's family. Seven years before had been anæmic. A year and a half previous to entrance had la grippe, and continued to lose flesh, and had a slight cough without much sputa. Malaise and anorexia, dyspnœa and palpitation. Just before entrance Dr. Sears had found some moist râles at the left apex.

Physical Examination.—Anæmic. Rather high-pitched percussion note in apices and sub-clavicular spaces, more noticeable in apices in the back. Respiration decidedly broncho-vesicular in both apices, most marked behind, with increased voice sounds. Later, diminution of respiratory murmur in lower left chest. Temperature 100. Pulse 88. *Examination of sputa negative.* The patient remained four months, gained twenty-one pounds, looked the picture of health; cough and expectoration ceased entirely, and temperature became normal. Although the respiration re-

mained broncho-vesicular in the apices, yet all other signs pointed to a complete cessation of any morbid process. She was advised to stay longer, but was obliged to leave.

Synopsis.—Case of incipient phthisis in one apex at least. Complete cessation of all morbid symptoms after four months. Gain of twenty-one pounds in weight. Subsequent history excellent.

Case VII.—(No. 70). Entered June 22, 1895. American. Single. Age 16. Mother and sister died of phthisis. Dry hacking cough nine months previous to entrance. Slight amount of blood. Other symptoms not marked.

Physical Examination.—Slight dullness in right supraclavicular space, and lacking in tone in both apices. Explosion of moist râles in both tops to second ribs. Less marked in back. Respiration faintly bronchial. Voice slightly increased. Temperature 100.8. Pulse 112. *Examination for bacilli negative.* Steady improvement from the outset. Cessation of cough and sputa. Gain of fifteen and one fourth pounds in weight. The physical signs became dry in character, although they persisted at the apices after entire cessation of cough and expectoration. Patient left against advice in three months.

Synopsis.—Incipient phthisis at both apices. Patient was discharged as "greatly improved" at the end of three months, although the cessation of cough and expectoration, the normal temperature and the general appearance of health justified the term "arrest of disease."

RECORDS OF FIVE CASES PREVIOUSLY RECORDED IN AN EARLIER PAPER AS "MUCH IMPROVED," SINCE DISCHARGED AS "ARRESTED CASES."

Case I.—(No. 31). Entered May 31, 1892. Sent by Dr. C. Ellery Stedman. American. Age 17. Family history bad: father, one sister, one adopted sister, and later a brother, died of phthisis. Perfectly well until one month previous to entrance, then took cold and a cough with little or no sputa persisted. Loss of flesh and strength, pain in chest and soreness.

Physical Examination.—Pale, dark under the eyes. Slight dulness down to the third rib in left top, also in left apex behind. Respiration a little jerky in this region, no

definite râle, but in the supra-clavicular space a faint "crumple" with full breath. Voice a little "nearer" in right apex. Temperature 99.8. Pulse 98. One month later the "crumple" had disappeared, but the jerky respiration continued. Respiration in right apex broncho-vesicular and voice faintly bronchophonic. In the lower right back, especially between the scapula and vertebral column, moist râles. During her stay of a little over two years she expectorated blood once, and the respiration in the lower right back became in a circumscribed area rather bronchial, but upon the last examination only faint dry râles could be heard after cough, with obscurity of respiration, but the percussion note had everywhere improved greatly. The temperature and pulse fluctuated from time to time, but at the last became normal. *No bacilli were found at any time.* Gain of twenty-seven pounds in weight.

Subsequent History.—For two years has felt perfectly well. One brother has since died of acute tuberculosis, but she has had no return of abnormal symptoms.

Case II.—(No. 33). Entered July 23, 1892. American. Age 19. Single. Worker in box factory. Family history negative. For some months weakness, cough with whitish starchy sputa, three times slight amount of blood; severe headache; night sweats, loss of flesh, dyspnœa upon exertion; occasionally feverish.

Physical Examination.—Except for slight increase in the expiratory murmur in the right apex in front, and broncho-vesicular respiration in the upper right back, little to be found in chest. Anæmia present, and sclerotics very clear. Temperature slightly elevated. Pulse rapid. Later, slight dullness developed in the right apex, and respiration was jerky. *Bacilli in sputa.* Occasional slight hæmoptysis occurred, but patient steadily improved, and at the end of two years left the hospital and is now very well. At the last examination there was little or nothing abnormal to find in the chest. Gain of thirty-four pounds in weight.

Synopsis.—Incipient phthisis at top of right lung. The patient was of very nervous disposition and, although the temperature never rose very high, it always was slightly elevated, and was just above normal towards the last.

Arrest of disease after a stay of two years. Patient has remained well since.

Case III.—(No. 36). Entered October 5, 1892. American. Age 22. Single. Clerk. Family history: mother, two aunts and two uncles died of phthisis. Never vigorous. Two months previous to entrance about a half cup full of blood was expectorated. Slight hacking cough with slight yellow expectoration. Loss of twenty pounds of flesh.

Physical Examination.—No dullness, but in both apices, in front and behind, rather coarse "clicks" with inspiration. No bronchial respiration. In left back, near spine of scapula, circumscribed area of slight broncho-vesicular respiration with increase of voice sounds. Temperature 100. Pulse 100. *Bacilli were found in the sputa.* The patient had occasional hæmoptysis, and the cough persisted for months, but at the end of two and one half years she left Sharon looking and feeling well and strong, the cough and bloody expectoration having disappeared; faint snapping râles in the apices still being noticed. Gain of seventeen pounds.

Synopsis.—Incipient phthisis at apices. Arrest of disease after two years' stay at Sharon. Patient has remained very well since, with no symptom of return of trouble (one year).

Case IV.—(No. 42). Entered January 25, 1893. Irish. Single. Age 25. Domestic. Never was strong. Family history: one sister died of phthisis, otherwise negative. Previous history of uterine trouble for which she was treated at the City Hospital; malarial fever and "la grippe" six months before entrance. Six months previously caught a severe cold; bad cough for four months, with muco-purulent sputa; pain in upper left chest and shoulder; palpitation; much loss of flesh, anorexia, dyspepsia; irregular and painful menstruation.

Physical Examination.—Slight dullness in right apex, lack of tone in both apices. Respiration obscure in apices, and a questionable "crumple" in the right top front and back. The patient, during her stay of nearly two years, improved greatly in general conditions; had one or two attacks of general bronchitis. At one time faint clicks could be heard in both apices, and whispered voice was in-

creased at these points. On account of the uterine condition, however, she was obliged to go to the New England Hospital, and later to the City Hospital, but previous to her departure all signs had cleared from the chest: the percussion was good throughout, and only an occasional dry "click" could be heard at the supra-clavicular space. Temperature 99.8. Pulse 94. *Bacilli were found in the sputa.* Gain of five pounds in weight.

Synopsis.—Incipient phthisis at both apices, with intercurrent attacks of acute bronchitis and complicated with severe uterine trouble requiring operations. Complete cessation of cough and expectoration and clearing of morbid pulmonary signs after a nearly two years' stay at the Sanitarium. No recurrence of pulmonary disease. Death following uterine operation about one year later.

Case V.—(No. 49). Entered July 27, 1890. Irish. Age 28. Single. Domestic. Family history bad: two brothers, two sisters and father died of pulmonary disease. History of illness five years before, with pain in the right side, but no cough, and was not in bed. Was told at the time by a doctor in Ireland that she had consumption and would not get well. Came to America three years before entrance and was well until two months previous when she had a hemorrhage without previous warning. Short cough with scanty sputa, malaise, loss of flesh, anorexia, pain in right chest.

Physical Examination.—Large frame. Tenderness at right apex. In middle of right back, slight dullness: respiration not so free as on left. Two months later moist râles developed over point of dullness in right back. Temperature 100. Pulse 88. *Bacilli and elastic fibres in the sputa.* Fourteen months later the patient left Sharon, having had no cough or expectoration for several months, and having been well, as far as general appearance goes, for six months. Splendid specimen of health. Gain of twenty-six and one half pounds in weight. The slight dullness in right back persisted, but the râles disappeared.

Synopsis.—Case of incipient phthisis in right lung with hemorrhages. Complete arrest of disease after fourteen months stay at Sharon. Patient perfectly well and strong up to the present time: "never so well in her life before." No sign of cough or ill health since leaving Sharon.

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